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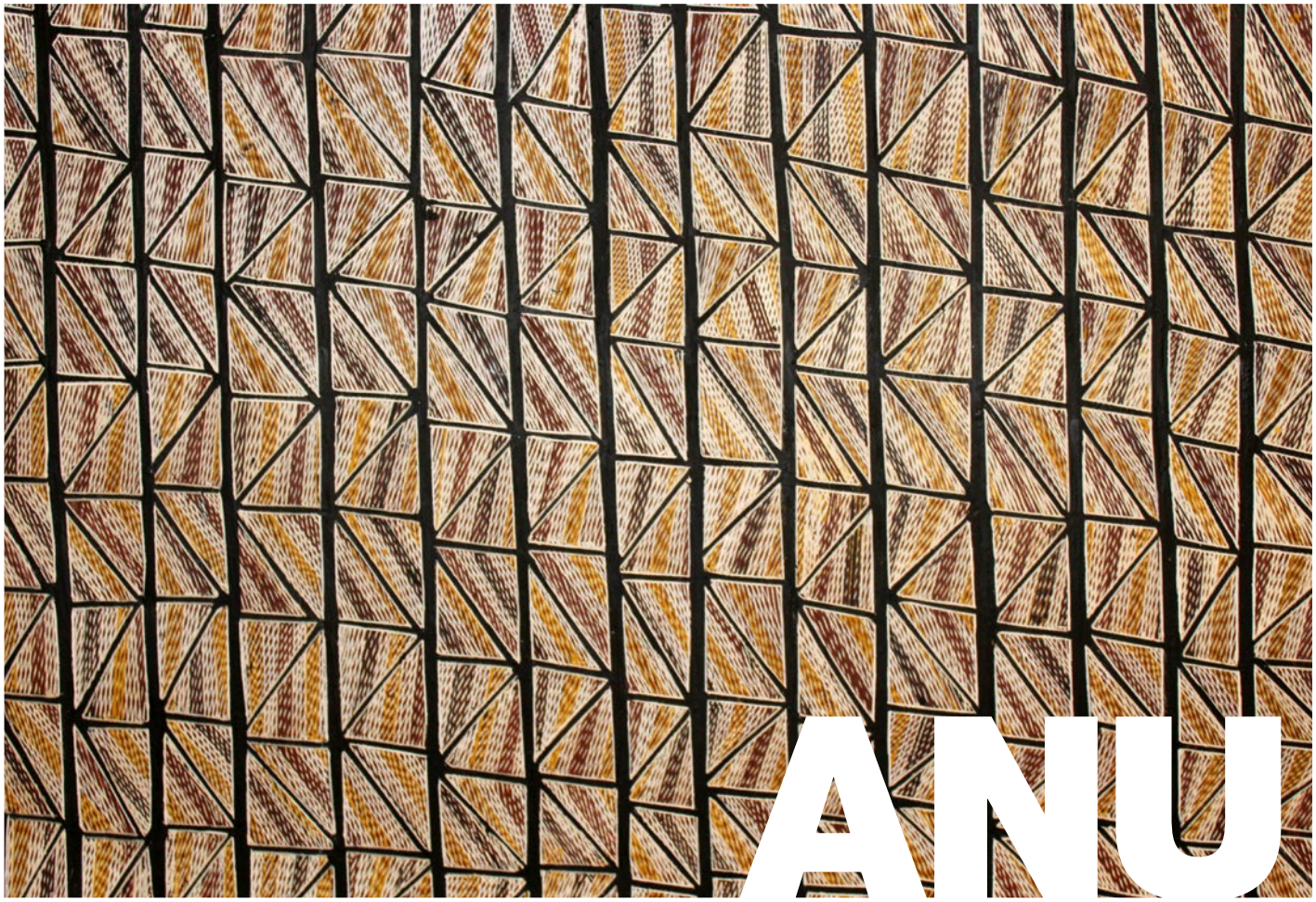

OCCUPATIONAL MOBILITY OF INDIGENOUS AND OTHER AUSTRALIANS, 2006–11

B HUNTER AND M GRAY

Centre for
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Abstract

This paper describes Indigenous and non-Indigenous occupational mobility (i.e. changes in the skill level of an occupation in which an individual is employed) using the Australian Census Longitudinal Dataset, 2006–11. The paper also considers movements out of paid employment, by occupation, and the occupations in which people who move into employment are employed. The main finding is that Indigenous people are more likely than non-Indigenous people to enter the labour market through low-skill jobs, and to have greater downward mobility because they are more likely than non-Indigenous people to leave employment from the highest-skill occupations. For those who are employed at successive censuses, there is not a great deal of difference in Indigenous and non-Indigenous patterns of occupational mobility. By analysing the flows into and out of particular occupations, this paper also attempts to broaden the understanding of job retention rates. We explore some interpretations of these data using recent literature on job polarisation and routinisation of work.

Keywords: occupation mobility, Indigenous, labour market

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Acronyms

ABS	Australian Bureau of Statistics
ACLD	Australian Census Longitudinal Dataset
ANU	The Australian National University
ANZSCO	Australian and New Zealand Standard Classification of Occupations
CAEPR	Centre for Aboriginal Economic Policy Research
CDEP	Community Development Employment Projects

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Introduction

There is evidence that changes in the distribution of employment by occupation, and average earnings by occupation explain substantially more of the rise in earnings inequality than factors such as age and education attainment (Borland & Coelli 2016). In another article, Coelli and Borland (2016) also identify the significance of the phenomenon of job polarisation, whereby there is an increase in the share of employment in high-skill jobs, a decrease in the share in middle-skill jobs and an increase in the share in low-skill jobs.[1] Borland and Coelli's research highlights the importance of policy that considers the types of jobs held by Indigenous people. This paper describes the types of occupations Indigenous and other Australians are employed in, and how people change occupational and labour force status over time.

Job polarisation has been driven by the loss of jobs that are high in routine task intensity, and has primarily affected men (Autor et al. 2003, Autor & Dorn 2013). New technologies are replacing routine cognitive and manual tasks previously undertaken by middle-skilled workers. Computer technology has been complementary to cognitive and interactive tasks undertaken by highly skilled workers, raising their productivity and, in turn, demand for these workers. Historically, at least until the recent past, nonroutine manual tasks have been less amenable to being substituted by machines and technology. Goos et al. (2014) argue that, in addition to the role of (routine-biased) technological change, offshoring jobs in cheaper labour markets can partially explain job polarisation.

These trends have potentially important implications for Indigenous labour force status, given that Indigenous employees are much more likely to be in low-skilled occupations than are non-Indigenous Australians, and are therefore in jobs that are more likely to be lost from the economy. Increases in Indigenous employment will require Indigenous workers to acquire the skills needed for occupations that are likely to be demanded in the future.

Although detailed data are available on the occupations in which the Indigenous population work and how this occupational distribution is changing over time, there is little empirical evidence on transitions between occupations for the Indigenous population. This paper uses data from the Australian Census Longitudinal Dataset (ACLD), which links the 2006 and 2011 censuses for a subsample of the population, to analyse transitions into and out of low-skilled occupations for the Indigenous population, and how this compares with transitions for the non-Indigenous population.

Previous analysis of the 2006 and 2011 censuses by Gray et al. (2014) shows that the overall occupational distribution of Indigenous workers in nonremote areas was similar in 2006 and 2011. Modest shifts occurred in occupational structure away from labourers and towards community and personal service workers for females, and towards technical and trades workers for males. The occupational distribution of non-Indigenous workers also remained relatively constant between 2006 and 2011, with the exception of a shift away from managerial positions in remote areas, perhaps reflecting the weakening of the agricultural sector.

This paper uses the standard Australian Bureau of Statistics (ABS) occupational classifications in conjunction with a related classification developed by the ABS – occupational skill level.

The next section describes key features of the ACLD relevant to the analysis presented in this paper, and analyses the definition of occupational skill level and its relationship to the broad occupation categories. The main results are presented as transitions between selected labour force states characterised by the skill level of occupations. The policy discussion in the final section reflects on the implications of the findings, and looks to future productive policy and research directions from occupational data that become available late in 2017.

Data

Australian Census Longitudinal Dataset

The ACLD uses data linkage techniques to link responses to the 2006 Census by a 5% random sample of respondents with their responses to the 2011 Census. The ACLD 2006–11 includes 800 759 individuals, of whom 14 802 identified as being Indigenous in 2006. This forms the largest available longitudinal dataset of Indigenous Australians (ABS 2013). Indigenous identification changed substantially between 2006 and 2011 among the linked sample. Of those who identified as being Indigenous in 2006, 9.2% identified as being non-Indigenous in 2011 and 1.1% did not state their Indigenous status. Of those who identified as being non-Indigenous in 2006, 0.2% identified as Indigenous in 2011 and 0.9% did not give a response (ABS 2013). The instability in the identification of Indigenous status presents a challenge for analysis and interpretation of the data, particularly when trying to compare changes over time from two cross-sectional

datasets. One advantage of the ACLD is that the group of individuals whose characteristics and outcomes are being compared over time can be held constant. In this paper, we have defined Indigenous status as measured by the 2006 Census.[2]

The main analysis is restricted to people aged 20–59 years in 2006, to ensure that all respondents were in the working-age population in both 2006 and 2011, and so that we could focus on the post–secondary school population.[3] A separate analysis for those aged 15–24 years and 25–59 years in 2006 examines the main period of transition from formal education into the labour market.

Census data on Indigenous employment are complicated by the inconsistent and incomplete coverage of participants in the Community Development Employment Projects (CDEP) scheme. CDEP tends to be underreported in census collections because information on participants was being collected only in some remote areas; furthermore, there is considerable uncertainty about how remote CDEP participants may have reported their CDEP and employment status in the census. Comparisons of changes in occupation over time are further complicated for Indigenous Australians by the substanital reduction in the number of CDEP participants since 2006 (Hunter & Gray 2013a). To the extent that CDEP was identified as employment in census data in the period covered in this paper, it is almost entirely concentrated in lower-skilled occupations (skill level 5). If the person was affected by the reduction in the number of CDEP places between 2006 and 2011, and was not able to find non-CDEP employment by the time of the 2011 Census, then this person is most likely to be represented in the transitions from low-skilled occupations to non-employment.

Issues for measuring occupation over time

One of the challenges in analysing occupational mobility is changes over time in the categorisation of occupations by the ABS. Changes to the categories reflect changes in occupations that are found in the economy and changing skill composition of jobs. Between 2006 and 2011, the Australian and New Zealand Standard Classification of Occupations (ANZSCO) was revised, with new occupations added, and changes to the titles and definitions of some existing occupations (ABS 2009).

However, a strength of the ACLD for estimating occupational mobility is that the 2006 and 2011 censuses include data on the skill levels of occupations that are comparable between censuses. For the reasons outlined above, and consistent with the international literature on job polarisation, the analysis in this paper is based on occupational skill level.

The discussion of the definition of occupations in this section draws heavily on ANZSCO (ABS 2006). An occupation can be defined as a set of jobs whose main tasks are characterised by a high degree of similarity. The similarity of tasks is defined in ANZSCO as being a function of the level and specialisation of skill required to do those tasks. Within the ANZSCO framework, skill level is defined by the range and complexity of the set of tasks done in a particular occupation. The greater the range and complexity of the set of tasks, the greater the skill level of an occupation. In practice, skill level is determined by a range of factors, including (a) the level or amount of formal education and training, the amount of previous experience in a related occupation, and the amount of on-the-job training required to competently do the tasks required for that occupation; and (b) the degree of specialisation required to do the job.

In general, the greater the range and complexity of the tasks involved, the greater the amount of formal education and training, previous experience and on-the-job training required to competently do the tasks for that occupation. Specialisation is defined as a function of the field of knowledge required, tools and equipment used, materials worked on, and goods or services produced or provided.[4]

ANZSCO assigns respondents' occupations to one of five skill levels (see Table 1). For example, occupations at skill level 1 (the highest skill level) have a level of skill commensurate with a bachelor degree or higher qualification. In some instances, relevant experience and/or on-the-job training may be required in addition to the formal qualification. To be classified as having skill level 1, a person must have at least five years of relevant experience that substitute for the formal bachelor degree (or higher) qualification requirement.

ANZSCO defines eight major occupation groups (one-digit level) that are formed by grouping together submajor occupation groups (two-digit level) using aspects of skill level and skill specialisation. Although almost all the more detailed disaggregated occupational classifications in ANZSCO have only one skill level, the one-digit occupations contain jobs with more than one skill level. It is important to bear in mind that occupational classifications do not measure the skill level of an individual – rather, they relate to the level of skill that is typically required to competently perform the tasks of a particular occupation.

TABLE 1. Summary of the relationship between occupational skill level, educational qualification and relevant work experience

Skill level	Commensurate qualification	Work experience that formal qualification may be substituted by
1 (highest)	Bachelor degree or higher	At least five years
2	Associate degree/ diploma	At least three years
3	Certificate IV/ Certificate III	At least three years
4	Certificate III/ Certificate II	At least one year
5 (lowest)	Certificate I or compulsory secondary education	Not applicable

Note: In some instances, relevant experience and/or on-the-job training may be required in addition to a formal qualification.
Source: ABS (2006)

Table 2 illustrates the relationship between ANZSCO one-digit occupations and occupational skill levels using occupation data coded by the ABS. Professionals are uniformly highly skilled, and a lot of work experience is required to substitute for educational qualifications, whereas managers are more heterogeneous, with just over one-third having skill level 2. Labourers tend to be the least skilled group, with the vast majority having skill level 5. The other occupations tend to have a range of skill requirements.

While occupations change over time, skill levels provide a clear link to the productivity of work and tasks, and the likely policy options that involve the development of general skills through educational qualifications.

Dynamics of occupational skill level of Indigenous and non-Indigenous Australians

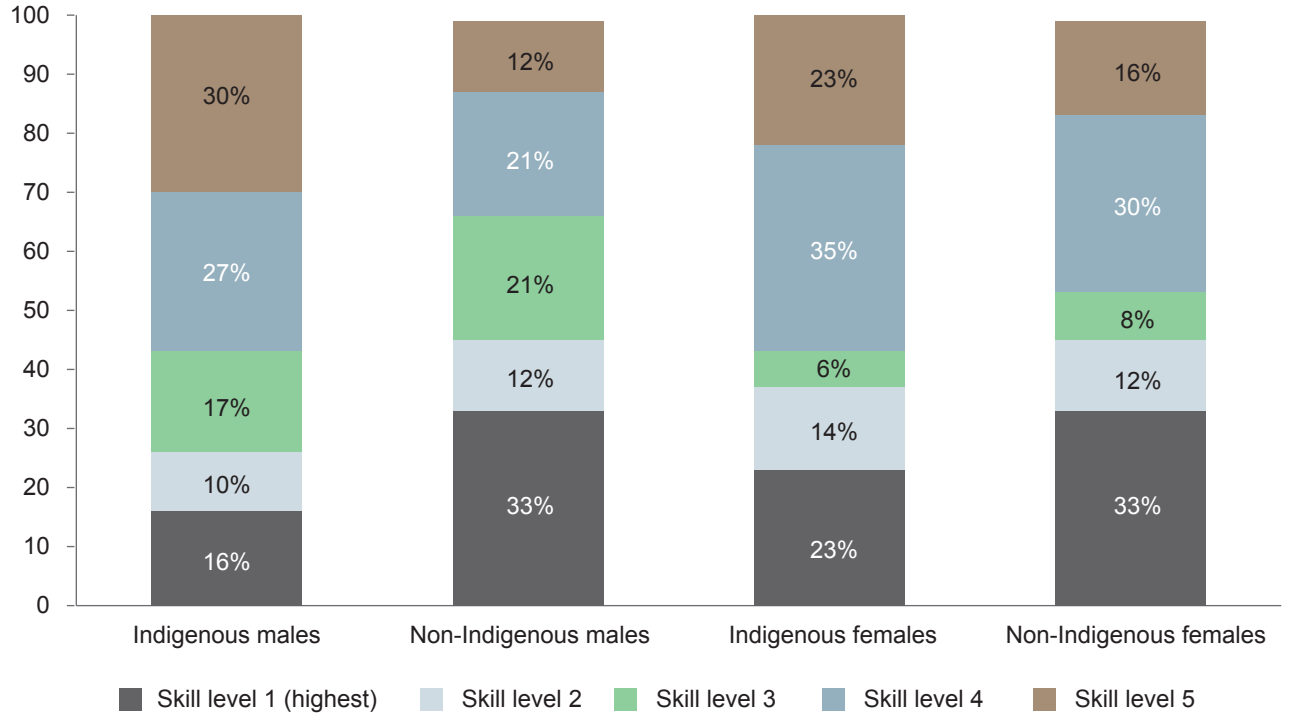
This section provides a longitudinal analysis of changes in occupational skill level and labour force status between recent censuses according to Indigenous status, sex and broad age group. Before attempting any analysis of occupational mobility, we need to understand the distribution of occupations in 2006. In 2006, Indigenous workers were overrepresented in the relatively low-skilled occupations, especially labourers, and underrepresented in the high-skilled occupations, such as managers and professionals. This pattern is consistent with the analysis of Hunter (2004) based on data from the 2001 Census. Information on occupational skill level identified in the 2006 Census confirms this pattern (Fig. 1). Although a higher proportion of both employed Indigenous men and women were in low-skilled jobs compared with their non-Indigenous counterparts, the extent of concentration is greater for Indigenous men than Indigenous women. Employed Indigenous men and women were also underrepresented in the highest-skilled jobs compared with other Australians. It is important to note that more than half of the Indigenous workers were employed in the middle three categories of occupational skill. While this group can sometimes be ignored in the public debate, these workers are highly likely to be affected by the long-run trend to job polarisation and the routinisation of work.

TABLE 2. Relationship between occupation and skill level, 2011

Occupation	Skill level %					Total (%)	Total ('000s)
	1	2	3	4	5		
Managers	65	35	0	0	0	100	1270
Professionals	99	1	0	0	0	100	2147
Technicians and trades workers	0	20	80	0	0	100	1380
Community and personal service workers	0	18	9	66	7	100	872
Clerical and administrative workers	0	17	9	69	6	100	1448
Sales workers	0	0	10	21	69	100	736
Machinery operators and drivers	0	0	0	100	0	100	637
Labourers	0	0	0	12	88	100	787
Total	31	12	15	26	14	100	9431

Notes:
1. Population aged 25–64 years in 2011.
2. Skill level 1 is the highest; skill level 5 is the lowest.
3. Row percentages do not necessarily add to 100 because of rounding error.
Source: ACLD 2006–11

FIG 1. Occupational skill level of employment, by sex and Indigenous status, 2006



Note: ACLD linked longitudinal sample for people aged 20–59 years in 2006. Estimates based on data weighted to estimated residential populations.
Sources: ACLD 2006–11, Australian Bureau of Statistics Data Analyser

Data for individuals' occupational skill level and labour force status in 2011 according to their occupational skill level in 2006 are given in Table 3. The 2006 population in Table 3 is restricted to those who were employed. The inclusion of a column for not employed in 2011 means that the table is capturing both occupational mobility for people who were employed in 2006 and 2011 and those who were employed in 2006 and not employed in 2011. The appendix provides information on occupational mobility for people who were employed in 2006 and 2011.

An example in interpreting the table is as follows. For Indigenous males employed in a job with an occupational skill level of 1 in 2006 (the highest level of occupational skill), and who were still employed at the time of the 2011 Census, 48% remained in a job with a skill level of 1, 13% were in a skill level 2 job, 3% in a skill level 3 job, 9% in a skill level 4 job and 4% in a skill level 5 job. Of the males who were in the highest occupational skill category in 2006, 23% had left employment by 2011.

Indigenous and non-Indigenous men have a similar pattern of changing occupational skill levels over a five-year period. The main difference is that Indigenous men who were employed in a skill level 1 job (highest skill level) in 2006 were 22 percentage points less likely than their non-Indigenous counterparts to remain in the skill level 1 job in 2011. The other differentials between the propensity to stay in a particular occupational group for Indigenous and non-Indigenous males were substantially less than the differential observed for the highest-skilled occupations. The propensity for male Indigenous workers to stay in the same occupation was uniformly less than for non-Indigenous workers in all occupational skill groups. The next biggest differential between Indigenous and non-Indigenous males was in the middle of the skill distribution (occupational skill level 3, for whom the differential is 10 percentage points). The main pattern in Table 3 is the relatively high rate at which Indigenous workers became non-employed. We will return to this point shortly.

Some differences are also evident between Indigenous and non-Indigenous women in changes in occupational skill level between 2006 and 2011, although the differentials are much smaller than for highly skilled males. For the middle of the skill distribution, the differential between Indigenous and non-Indigenous female workers' propensity to stay in the same skill level was relatively small. The largest differentials between Indigenous and non-Indigenous females are for occupational skill levels 1 and 5 (10 and 11 percentage points less likely to stay in the same occupational skill group).

This observed mobility pattern indicates that Indigenous males and females were less likely to remain in the same occupational groups between 2006 and 2011 than non-Indigenous males and females. The difference in mobility

TABLE 3. Occupational skill level in 2011, by Indigenous status and occupational skill level in 2006

Indigenous status 2006	Occupational skill level 2006	Occupational skill level 2011 (%)					Not employed 2011 (%)	Total (%)	Unweighted count
		1	2	3	4	5			
Indigenous males	1	48	13	3	9	4	23	100	241
	2	20	41	4	12	3	20	100	152
	3	10	6	51	10	8	15	100	271
	4	8	5	5	52	10	19	100	413
	5	8	2	6	16	37	30	100	412
Non-Indigenous males	1	70	8	5	7	3	8	100	52 309
	2	23	42	8	11	6	9	100	19 515
	3	9	7	61	9	6	9	100	34 233
	4	12	7	7	54	9	11	100	34 139
	5	10	7	10	19	41	14	100	19 517
Indigenous females	1	59	9	1	9	3	18	100	373
	2	19	34	2	17	6	22	100	207
	3	8	14	31	20	9	19	100	89
	4	14	10	1	44	7	24	100	550
	5	5	3	2	13	35	43	100	333
Non-Indigenous females	1	69	6	2	8	2	12	100	46 887
	2	18	37	4	19	7	15	100	17 521
	3	9	10	38	18	6	18	100	11 325
	4	11	9	4	52	7	17	100	42 765
	5	5	6	3	17	46	22	100	22 773

Notes:
1. See Fig. 1.
2. 2006 population is restricted to those who were employed in 2006.

Sources: ACLD 2006–11, Australian Bureau of Statistics Data Analyser

patterns of Indigenous and non-Indigenous populations is greater for females than for males. The relatively high level of Indigenous people not staying in skill level 5 jobs may be because only a small number of employed in the ACLD were actually working in the CDEP scheme in both 2006 and 2011. However, the large differential in mobility of Indigenous males out of high-skill jobs needs to be understood.

The data in Table 3 also show the percentage of workers with various occupational skill level in 2006 who were not employed in 2011.[5] Potential reasons for the lower rates of job retention among the Indigenous population (Hunter & Gray 2016) include the impact of complex family/community circumstances and dynamics, as well as unmeasured differences in the types of jobs workers have. The distinct occupational mobility pattern among high-skill Indigenous males is driven largely, but not wholely, by the relatively high probability that those Indigenous workers leave the workforce between censuses.

Among males employed in jobs with the highest occupation skill level (skill level 1), Indigenous males were 15 percentage points more likely to become non-employed. Hence, the high level of turnover commonly observed among Indigenous workers is even evident among highly skilled workers and jobs. Indigenous females employed at skill level 1 were 6 percentage points more likely than non-Indigenous females in similar jobs to leave employment between 2006 and 2011. Indigenous workers with mid-level skills were also more likely to become non-employed in this five-year period. However, for Indigenous workers employed at skill level 5, Indigenous males were 16 percentage points more likely than non-Indigenous males to become non-employed, while low-skilled Indigenous females were 21 percentage points more likely to become non-employed than their non-Indigenous counterparts. To the extent that wages are lower in such jobs, the opportunity cost of leaving employment would be lower.

Overall, this could be interpreted as reflecting that job retention is particularly low among low-skilled workers

(i.e. low-skilled workers are more likely to leave the labour market than highly skilled workers). This observation is particularly pronounced for low-skilled female workers. However, the rates of leaving employment are much higher for Indigenous workers than for non-Indigenous workers, irrespective of the initial level of skill. Given that CDEP participation was concentrated among males doing relatively low-skilled tasks in 2006, the substantial decline in the CDEP scheme in this period does not explain the differential in the extent to which Indigenous and non-Indigenous workers left the labour market between 2006 and 2011.

Table 4 presents estimates of occupational skill level in 2011 according to labour force status in 2006. The table provides information on the skill level of jobs for people moving into employment between 2006 and 2011, and how this compares with people who were employed in both 2006 and 2011. Hunter and Gray (2016) identified that Indigenous Australians in the younger age groups were less likely than non-Indigenous Australians of the same age to be employed at any given point in time, and were less likely to stay employed between the 2006 and 2011 censuses. We expect the occupational mobility for youth to be more affected by recent educational experience than the mobility for the mature-age population, since most of the latter group have finished their post-secondary educational participation. Furthermore, recent education and training may focus on marketable skills, to the extent that educational choices respond to market incentives, and hence may be more relevant in a changing labour market. Given the relatively young age of the Indigenous population and the likely importance of the transition from education into the labour market, the estimates in Table 4 are presented separately for youth aged between 15 and 24 in 2006 and those aged 25 to 59 in 2006.

Indigenous people moving into employment are more likely to be employed at the low-skilled end of the labour market than non-Indigenous people. Young Indigenous men who move into employment are much more likely to be employed in the lowest skill level jobs (skill level 5) (35% compared with 24%) and less likely to be employed in the highest or second highest skill level jobs than their non-Indigenous counterparts. The differences in occupational skill level between young Indigenous women and young non-Indigenous women moving into employment were smaller than for men, with little difference in the proportion employed in the lowest-skilled jobs, but Indigenous women were much less

TABLE 4. Occupational skill level in 2011, by Indigenous status and labour force status in 2006

Age	Indigenous status 2006	Labour force status 2006	Occupational skill level 2011 (%)						Unweighted counts
			1	2	3	4	5	Total	
15–24 years	Indigenous males	Employed	12	10	24	28	25	100	357
		Not employed	11	4	25	25	35	100	256
	Non-Indigenous males	Employed	23	10	30	22	15	100	26 880
		Not employed	19	8	25	24	24	100	12 402
	Indigenous females	Employed	17	12	7	42	22	100	279
		Not employed	14	9	8	42	27	100	241
	Non-Indigenous females	Employed	32	12	8	32	15	100	25 008
		Not employed	24	9	7	35	25	100	11 453
25–59 years	Indigenous males	Employed	20	12	17	31	21	100	1 177
		Not employed	18	11	10	29	32	100	224
	Non-Indigenous males	Employed	35	13	20	21	11	100	144 111
		Not employed	25	11	19	25	20	100	8 859
	Indigenous females	Employed	30	16	5	32	17	100	1 170
		Not employed	16	13	6	38	26	100	405
	Non-Indigenous females	Employed	36	13	7	30	14	100	119 143
		Not employed	23	10	7	35	25	100	20 013

Note: Linked longitudinal sample for people aged 15–59 years in 2006. Estimates based on data weighted to estimated residential populations.
Sources: ACLD 2006–11, Australian Bureau of Statistics Data Analyser

likely than non-Indigenous women to be employed in the highest skill level occupations (14% compared with 24%).

Young Indigenous women entering employment were more likely to be employed in higher-skilled jobs and less likely to be employed in lower-skilled jobs than were young Indigenous men.

Indigenous men and women aged 25–59 years in 2006 moving into employment were less likely to be employed in the highest-skilled jobs than their non-Indigenous counterparts. However, while Indigenous men were more likely to be employed in the lowest-skilled jobs than were non-Indigenous men (32% compared with 20%), this was not the case for Indigenous females, for whom the difference was small (26% compared with 25%).

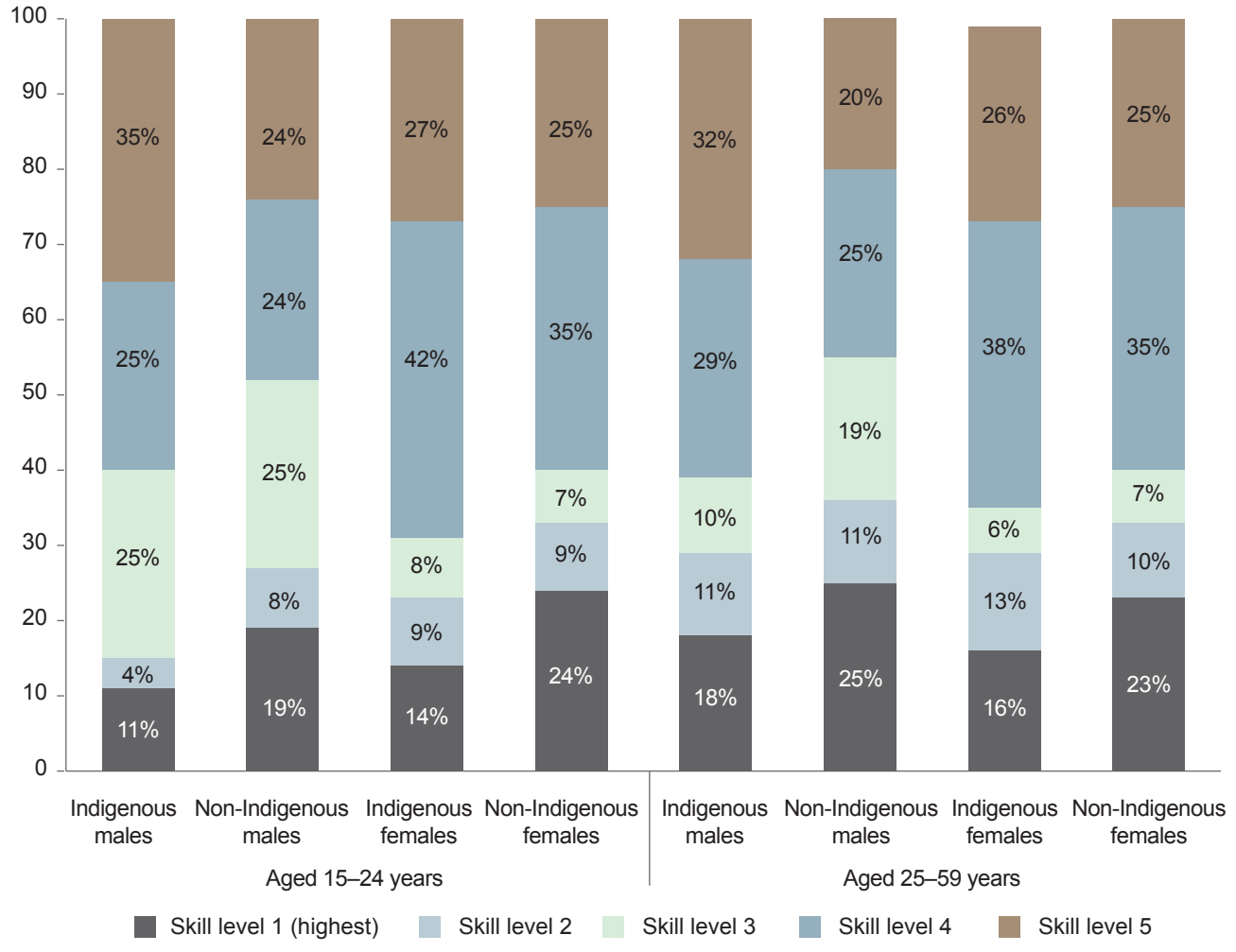
Of course, these observations are just reporting labour force status at two points in time: at the time of the 2006 and 2011 censuses. The analysis in this paper provides some insight into how Indigenous people move into the labour market in the long term, even if there was some movement between labour force states in the short term.

Fig. 2 provides a graphic illustration that the major entry of Indigenous youth into the labour market was through low-skilled occupations. Older Indigenous males and females were more likely to secure a high-skilled job from non-employment than Indigenous youth. This is probably associated with the older profile of Indigenous students, many of whom start tertiary studies later in life (Gray et al. 2014).

Discussion

This paper presents the first longitudinal analysis of the occupational dynamics of the Indigenous population

FIG. 2. Occupational skill level in 2011 for those who were not employed in 2006, by age and Indigenous status



Note: See Table 4.
Sources: ACLD 2006–11, Australian Bureau of Statistics Data Analyser

and compares this with occupational dynamics for non-Indigenous Australians. Most research on occupational mobility focuses on changes in occupation for those who are already employed. However, this paper takes a broader definition of occupational mobility that considers movement into and out of the workforce from various occupations.

Our analysis confirms previous research (Coelli & Borland 2016) by showing that, in general, workers in higher-skilled jobs were more likely to still be employed after five years than those in lower-skilled jobs. Because Indigenous people were more likely to be employed in low-skilled jobs, this highlights their vulnerability to job losses occurring as a result of broader macrcoeconomic trends. In addition, the analysis shows that Indigenous workers at each skill level were more likely to move out of employment within five years than non-Indigenous workers. The international trend towards job polarisation means that Indigenous people are less concentrated in high-skilled occupations that have experienced relatively high growth rates. Unless Indigenous people can secure jobs in occupations that are less prone to routinisation, the ability to further increase Indigenous employment rates will be constrained. Further research into Indigenous occupational mobility is required.

Of particular note was the large degree of downward mobility among Indigenous men in the highest-skilled occupations. They were far more likely to leave highest-skilled occupations for lower-skilled occupations, and were more likely to leave employment than were their non-Indigenous counterparts. Highly skilled Indigenous males were also more likely to leave employment than most other Indigenous workers, except those in the lowest-skilled occupations. This finding is a major contribution to the literature, but why was it the case?

Several possibilities could explain this finding. First, highly skilled Indigenous males may not be well matched with the requirements of their existing employers. This mismatch may be manifest as a pronounced dissatisfaction among those workers who leave employment in relatively large numbers. If that were the case, creating Indigenous-friendly workplaces may partially be the answer (Hunter & Gray 2013b). Second, the complex social dynamics of Indigenous households may make it difficult to sustain productive work patterns expected by businesses paying substantial wages to highly skilled workers. The fact that the labour force exits of highly skilled Indigenous females are not as pronounced as those of highly skilled Indigenous males (vis-à-vis their non-Indigenous counterparts) means that further research is needed to identify the factors driving these observations.

Indigenous men and women entering employment are more likely to be in lower-skilled jobs than their non-Indigenous counterparts. Once employed in low-skilled jobs, Indigenous workers are also less likely to progress to higher-skilled jobs over time than their non-Indigenous counterparts.

These occupational dynamics are important contributors to the lower occupational status of the Indigenous population. They also highlight the challenges that the Indigenous population will face if the projected increases in the relative demand for higher-skilled jobs occur (World Economic Forum 2016). Given that the ageing population is likely to increase the demand for workers in health care and personal service sectors, where occupations are historically female dominated, policy to enhance labour market engagement of low-skilled Indigenous males is likely to be particularly challenging.

Although the analysis that is possible using the ACLD is limited because data are available for only two points in time, the longitudinal analysis presented in this paper is an advance on the existing research, which has been restricted to a cross-sectional analysis. Having data for only two points in time, five years apart, means that we cannot say what happened between the census dates. The analysis of occupational dynamics presented in this paper could be extended in several ways. First, the Household, Income and Labour Dynamics in Australia (HILDA) survey, which provides a detailed employment calendar and information on occupation at the time of the annual interview, could be used. Although HILDA contains very detailed data on employment dynamics, analysis is limited by the relatively small Indigenous sample. In our judgment, the more fruitful approach will be to use the ACLD to gain further insights into the characteristics of people who changed occupation or moved into and out of the workforce from particular occupations. Multivariate analysis of changes in occupational skill level is likely to provide some relevant insights.

Linking the 2016 Census to the 2006 and 2001 censuses will allow the longer-term dynamics of occupation to be analysed. While there is a need for more detailed longitudinal analysis – for example, using job calendars such as provided in HILDA – it should be possible to exploit ACLD data on Indigenous Australians to gain further insights into Indigenous occupational mobility and how it compares with that of the non-Indigenous population.

This paper has provided some stylised facts, which can be further understood through careful analysis of such data and techniques. Identifying the characteristics of people associated with movements in employment will help policy makers target their policies appropriately.

Appendix Occupational mobility between censuses

TABLE A1. Occupational skill level in 2011, by sex, Indigenous status and skill level in 2006

Indigenous status 2006	Occupation skill level 2006	Occupational skill level 2011 (%)					Total (%)
		1	2	3	4	5	
Indigenous males	1	63	17	4	11	5	100
	2	25	52	4	15	4	100
	3	12	7	61	12	9	100
	4	9	7	7	65	12	100
	5	12	3	9	23	53	100
	Total	**20**	**12**	**17**	**30**	**21**	**100**
Non-Indigenous males	1	76	9	5	7	3	100
	2	25	46	9	12	7	100
	3	10	7	67	9	6	100
	4	14	8	8	61	10	100
	5	11	8	11	22	48	100
	Total	**35**	**13**	**20**	**21**	**11**	**100**
Indigenous females	1	72	11	1	11	4	100
	2	24	43	3	22	8	100
	3	9	17	38	24	11	100
	4	19	13	2	58	9	100
	5	8	5	3	23	60	100
	Total	**30**	**16**	**5**	**32**	**17**	**100**
Non-Indigenous females	1	79	7	2	10	2	100
	2	21	44	5	22	8	100
	3	11	12	46	22	8	100
	4	13	11	5	63	8	100
	5	7	8	4	22	59	100
	Total	**36**	**13**	**7**	**30**	**14**	**100**

Note: Linked longitudinal sample for people aged 20–59 years in 2006 who were employed in 2006 and 2011. Estimates based on data weighted to estimated residential populations.
Sources: ACLD 2006–11, Australian Bureau of Statistics Data Analyser

Notes

1. The polarisation of jobs has also been found in many countries in the Organisation for Economic Co-operation and Development (e.g. Goos et al. 2014).
2. People in the ACLD who identified as Indigenous in 2006 but as non-Indigenous in 2011 were more likely to live in urban areas, while those who changed identification from non-Indigenous to Indigenous were more likely to have relatively poor socioeconomic outcomes (Biddle & Crawford 2015). Although further ACLD analysis of occupational mobility can control for those changing Indigenous status between censuses (e.g. in a multivariate context), the number people changing status was relatively small, and we focus on the occupational mobility to identify the main patterns in the data.
3. This restriction was relaxed for Table 2, which includes all people aged 15–59 in 2011, because it is simply attempting to describe the concordances between skill levels and broad definitions of occupations.
4. In developing the skill specialisation criteria for ANZSCO, employability skills were considered as a possible additional dimension of skill specialisation (ABS 2006). There are two facets to employability skills – personal attributes such as loyalty, commitment and motivation; and generic skills, including communication, teamwork and problem solving. Employers are increasingly using employability skills in conjunction with technical or job-specific skills when assessing the suitability of an individual for a particular occupation. Since these employability skills are applicable to most occupations, it was decided not to include them as classification criteria for ANZSCO.
5. The relatively small Indigenous sample size means that it was not possible to distinguish between the different categories of non-employment (unemployment or not in the labour market) for certain skill categories.

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